

## **The Presence, Levels and Relative Risks of Priority Pesticides in Selected Canadian Aquatic Ecosystems**

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### **Biographical Sketch of Presenting Author**

Janine Murray is a Senior Environmental Monitoring Specialist with the Water Quality Monitoring Branch of the National Water Research Institute of Environment Canada. Janine has worked on environmental monitoring issues since 1992, firstly in northern ecosystems with the Northern Contaminants Program of Indian and Northern Affairs Canada and with the international Arctic Monitoring and Assessment Program in Norway. Since 2000, Janine has worked with Environment Canada on national coordination of water quality monitoring. Janine currently manages a national surveillance project on pesticides in water, working closely with water quality monitoring scientists across Canada.

### **Abstract**

Pesticides are a unique group of toxic substances, as they are deliberately released into the environment. Currently, there are only limited data on the occurrence, distribution and fate of current-use pesticides in surface waters, groundwaters, and sediments of Canada. Correspondingly, the ability to predict or assess the potential for deleterious health and environmental effects is compromised. In order to address this knowledge gap, Environment Canada is conducting a geographically diverse national pesticides surveillance program focused on vulnerable watersheds (e.g. drinking water sources and sensitive aquatic habitats). Sampling of surface and ground waters, sediment and biota is being conducted over 2 to 3 years, to confirm the presence and levels of in-use pesticides based on the following priorities: regional usage, chemical persistence, environmental fate and bioaccumulation/biomagnification potential.

A recent report by, Environment Canada's National Water Research Institute, entitled Threats to Sources of Drinking Water and Aquatic Ecosystem Health in Canada, highlighted the need for targeted pesticides monitoring data to determine trends, assess hazards, and provide knowledge for regulatory decisions. The data from this surveillance project is also expected to inform the Canadian public and federal, provincial and municipal resource managers on the environmental presence, levels and relative risks of pesticides, identify specific priorities and areas for future effects investigations, and ultimately assist the development of recommended risk management measures.